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ITS MECHANISM AND TREATMENT.

SPONTANEOUS EVOLUTION OF THE FŒTUS:

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PAPERS SUBMITTED TO THE

N. Y. STATE MEDICAL SOCIETY,

By JOHN V. P. QUACKENBUSH, M. D.,

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Its Philosophy and Treatment. By J. V. P. Quackenbush, M. D., Professor Obstetrics, Albany Medical College, Albany, N. Y.

I propose, Mr. President and gentlemen of the Society, to offer you a few remarks upon the subject of pelvic presentation, and in the outset of the discussion, discarding what the older and indeed some recent writers have styled the knee and the foot presentations, I would state that I mean by pelvic presentation, that presentation in which the pelvis of the fœtus is the first *material* portion of the *ovoid body* which engages at the superior strait; and it matters not whether this portion is preceded by one or both of the lower limbs, or whether, doubled up, they accompany it, for the *mechanism* in each case is one and the same. This definition, then, comprises the pelvic presentation proper, the knee presentation, and the foot presentation in one classification, and the remarks which are applicable to one are equally applicable to the others.

Is the pelvic presentation natural, normal, or is it unnatural, abnormal? Are the efforts and machinery which nature supplies sufficient for the expulsion of the fœtus in these cases, or is adventitious aid, either manual or instrumental, necessary?

The *form*, *position* and *structure* of the uterus afford strong *presumptive* evidence that the *natural* position of the fœtus, in its cavity, is in the direction of its axis or longitudinal diameter; that is, that one end of the fœtus, which, being doubled upon itself, constitutes an ovoid body, should present itself at the mouth of the uterus, while the other end should look toward the fundus of the organ.

The *form* of the uterus is a hollow ovoid, for the reception of a solid ovoid; and how natural it is that the longitudinal axis of the one should coincide with the longitudinal axis of the other.

The *position* of the uterus is vertical, looking down into the superior strait of the pelvis, *which*, with the excavation and the inferior strait, constitutes a channel through which this ovoid body must pass; and, again, how natural for this body or boat to enter this channel with one of its ends in advance; or, in other words, that the longitudinal axis of the boat should coincide with the longitudinal axis of the canal through which it is to pass.

The *structure* of the uterus is such that all its efforts—which may be compared to so many cords—are so directed and centred as to draw the body which is contained down to the strait into which the os uteri opens; and again how natural it is that the ovoid should present one of the ends of its long diameter to this opening. Now, in accordance with this presumptive evidence, based upon the conditions named, we find that nature generally acts, and that, when labor commences, with very few exceptions, either the vertex or the pelvis of the child presents itself at the opening of the superior strait.

These, then, are natural presentations. *Natural*, because the fœtal body, when doubled upon itself, more readily accommodates itself in the longitudinal axis of the uterus. *Natural*, because in this position it more easily passes through that channel which it is designed to travel; and *natural*, because all the efforts of the uterus are designed to expel it in that *direction*, and in no other, without artificial aid.

Are the efforts and machinery, which nature supplies, sufficient for the expulsion of the child in these cases, or is adventitious aid, either manual or instrumental, necessary? This question is not so easily solved as the one first proposed, and yet to prove that pelvic presentation is normal, this interrogatory must receive an affirmative answer; for that presentation cannot be regarded as natural which, *of necessity*, requires in its mechanism means other than those which nature furnishes.

In the vast majority of cases the vertex of the child presents at the superior strait, and the philosophy and management of these cases are so well understood and practiced that in these instances the child is seldom still-born. Not so, however, where the pelvis engages the os uteri, for here we meet with a fearful mortality. For according to the statistics furnished by Churchill and others, two of every seven children in these cases are born dead or die soon after delivery. Now, if this be a necessity, are we authorized to affirm that the pelvic presentation is a natural one? And if it be not a necessity, should we not show that this dreadful mortality is not the consequence of the presentation itself, but of the manner in which the cases are usually managed? and herein lies the difficulty in solving the question proposed.

Physicians are too little impressed with the idea that parturition is a natural process, and are therefore too apt to interfere with it. That *judicious interference* may abridge the time and diminish the pains of labor, I doubt not; but I am equally positive that *injudicious* or *meddlesome* interference oftentimes converts an easy into a difficult labor, a natural into an artificial, a safe into a dangerous one.

How natural it is for the practitioner, after having sat by the bedside of his patient for two or three hours, and found no perceptible advance of the child through the os uteri, *gently*, *cautiously*, and *carefully* to insinuate his finger, and hooking into the groin, use gentle traction, and thus cause the delaying fœtus to advance; and at the same time how natural it is for him to draw down one limb, in order to use further tractive power when required. And yet, hard by this fact, we notice that one out of two and a half die *when* the foot comes down, while one of three and a half die *when* the foot remains up.

And what does this fact teach us? It teaches us a grand rule, a fundamental principle! It teaches us that even nature herself cannot with impunity interfere with

her own works, and if nature cannot, should man attempt it? It teaches us, moreover, that the power used in the deliv ry of the child should be an expulsive power and not tr ıcti one. And it teaches us other rules and prin. .ples, w ıch I shall endeavor to elucidate when I speak of the treatment of this presentation.

The presentation of the breech proper is the rule—its complication with the descent of one or both feet is the exception or violation of that rule, and when that violation occurs an excess in mortality is the result. Now, could I prove that the *cautious* drawing down of one or both feet *has been* and to a great extent *now is* the practice, I would furnish a strong argument to sustain my proposition, that not the *presentation* itself but the *management* of it causes the difficulty. But what author is willing to admit that he has practiced in the manner indicated, and that such practice is wrong? In fact, the philosophy of this presentation is not understood, and without a knowledge of *it* I can hardly see how the practitioner can understand that his management of this presentation is not correct. True, experience should teach us; but it must be educated and enlightened, not blind experience. A man who has treated twenty cases in which the pelvis has presented, and has treated each case unskillfully, and the result in each has been a still-born child, has had *experience*, but *that* experience has taught him no useful lesson, has been of no advantage to him; can be of no advantage, unless he admits that his whole experience has been one continued error. But can we find any author who will make this confession? Yes, we can *find* one, and that one is Hunter; and with the remark and its illustration, which his experience and his honesty enabled him to make, I will conclude this part of the discussion. "When," says he, "I first began practice, I followed the old doctrines in breech presentations, although I did not like them, but yet dared not broach new ones, till I got myself a little on

in life; at *this time I lost the child in almost all the breech cases*, but since I have left these cases to nature I *always succeed*." There is great good sense in this observation of Hunter, and it proves two things: first, the folly of blind adherence to mere opinion, constituting *routinism*; and second, the point under discussion, namely, that the fatality in these cases is not the result of the presentation itself, but of the manner of its management. Having now disposed of the two points, 1st, that the breech presentation is natural, and 2d, that nature is of herself competent to effect the delivery of the child in this presentation, I will very briefly lay down what I conceive to be proper rules for its treatment.

1st. Be very cautious and yet exact in making your diagnosis.* The evidence of a vertex presentation is *positive*, that of a pelvic presentation is *negative*, and yet this negative evidence requires the most care and caution. When the vertex presents, gently pushing against the membranes, you *feel* the head. When the vertex does not *present*, then pushing against the membranes, your finger meets *no resisting surface*, and this negative evidence tells you that some other part of the fœtus than the head presents, either the lateral plane or the pelvis. Now, this knowledge, negative though it may be, being acquired, you should for the present abandon the case entirely to nature, for an improper or untimely examination might result in a rupture of the membranes, the very accident which the first rule teaches you to avoid.

The object of this rule, then, is to notify you that the presentation is pelvic, and this knowledge obtained, you are not in *any case* to interfere in the first stage, unless the life of the *mother*, and not the *child*, be endangered thereby.

2d. Abstain from all interference until the first physiological stage of labor is completed; that is, till the os uteri is entirely dilated. This rule, simple in itself, is

* Your diagnosis of the presentation, not of position.

seldom observed. The anxiety of the parturient woman to gain assistance, and the very natural desire of the accoucheur to afford assistance, militate very much against this rule. The practioner should remember that labor is not a mechanical process only, but also a physiological one, and that for its safe performance the harmony between the two must be preserved. Who has not often observed, on making an examination, the vagina contracted, painful and dry, while the mouth of the womb remained small and firm; and yet upon a subsequent examination, made one hour later, has found the vagina large, relaxed and moist, and the os uteri fully dilated? And why this change? Simply, because these mechanical and physiological phenomena go hand in hand, and when we interfere and break up this harmony, difficulty, danger or death will be the result. While the process of dilation of the os uteri is progressing, another change is going on within the womb: the fœtus is being compressed upon itself, and its head is being flexed, so as to present its smallest diameter in its passage through the pelvis. It is an erroneous idea that the child acts the part of a wedge, and *thus dilates* the mouth of the womb, causing its opening, for this very process is accomplished when the side of the child presents. These reasons are applicable to all presentations, but they are especially applicable to the presentation under discussion; for while in others they cause delay and embarrassment, in *this* they cause danger and frequently death. In the first, delay and embarrassment, because the passage is not prepared and open for the body which is to pass through; in the second, danger and death, because the compressible portion of the body is compelled to undergo *undue*, untimely and inordinate pressure in being driven forcibly through an orifice which nature designed should be wide open to allow of its unobstructed passage. I think, from the reasons adduced, non-interference is absolutely necessary unt

the mouth of the womb is entirely dilated. The object of this rule is two-fold: first, to prevent pressure of the body as much as possible, by having the os uteri completely dilated; and second, to allow the head to become fully flexed, and thereby present its smallest diameter at the superior strait. This to the child is of vital importance.

3d. Use no tractive power, but let the fœtus be delivered by the expulsive power of the uterus alone.

This rule is very frequently violated, because the philosophy of this presentation is not well comprehended. It matters not which end of the ovoid body presents—whether the vertex or the pelvic—the uterus has an office to perform, that is, the forced flexion of the child's head, and we cannot interfere with this function with impunity. Now, to have this office performed, which is essential to the safe delivery of the child, the pressure must be from above, and consequently, when the child is forced downwards, it is compressed upon itself and its head is flexed. But should any tractive power be used, then the very reverse is brought about, and the head becomes extended, and the death of the fœtus is the result. To make my meaning more plain and better understood, let me illustrate: A natural case of vertex presentation offers itself. The labor pains commence and proceed regularly and strongly. Two, four, eight hours pass by, and no *mechanical* progress is made; the os uteri is dilated or dilatable; sufficient energy has been expended, as the practitioner *thinks*, and yet the head remains above the superior strait. What now must be done? The forceps are resorted to, and after severe and uncalled for traction the child is delivered, and the *apparent* history of the case is, a grateful mother, a successful and intelligent physician; while the *real* history is, a mal-treated woman, an injudicious and meddlesome practitioner! And why? Simply because he has not waited till nature, by means of her

beautiful machinery, has caused the flexion of the child's head, but has attempted to accomplish the delivery by forcing a diameter of 4½ inches through a pelvis which nature had designed for the transmission of one of 3½ inches. Now reverse the ovoid body and the pelvis presents, time elapses, traction is made, and the same condition of things, only ten-fold more fatal in their effects, is brought about, and that presentation which, left alone, would have been normal, with the head flexed, now becomes abnormal with the head extended, and a still-born child is the result.

This, then, is the *first* reason why no traction should be applied in these cases; but again: *if we do* make traction on the child, we must of necessity draw down one of the limbs, and thus convert it into a so-called footling presentation; and here the naked fact stares us in the face, that one of every 2½ die in this presentation, whereas one of every 3½ die in pelvic presentations proper. But what is the philosophy of this? What the modus operandi? *When* the os uteri is *fully* dilated the child will commence its descent into the excavation, and will meet with no resistence from the walls of the uterine mouth; but if, to hasten this descent, we draw one of the limbs down, then the resisting fibres of the mouth encircle and firmly clasp the fœtal body, and from that moment commences a pressure upon the *body* which embarrasses the delivery, rendering it dangerous or fatal to the child.

Should I here be met with the objection, that traction can be applied by the blunt hook grasping the groin of the child, instead of by the limb, I would answer that the hook thus used is a dangerous weapon, and very few will be satisfied with their experience in its use.

My third reason for not drawing down the limb of the fœtus is this: The fœtal limbs are not doubled across the child's body, like a tailor's when in a sitting position, but they are placed longitudinally on the anterior plane

of the body; and even when the membranes are ruptured prematurely, the naval cord lies between the limbs of the fœtus, and is thus guarded from pressure, while a large portion of the body is passing through the uterine orifice.

My *fourth* reason for not interfering and using traction is of a negative character, and intimately connected with what I have already said, and is this: It causes delay to the child's descent till the parts are adapted for its speedy passage. Now it is of little moment how long the dilating stage of labor continues, either to mother or child. The pains may be severe and long continued, but no injury to the child can result, for it is protected by its investing membranes, and the fluid which they contain; and even if the membranes be ruptured, the fœtus can better endure the *uniform* pressure of the uterus, than it can the *partial* pressure of the fibres at the mouth, as it is expelled through the *forcibly* distended orifice. I will now pass on and give the fourth rule for the treatment of these cases, which is this: 4th. Allow the child to pass down in the direction that nature adopts, and facilitate the movement as you would in a vertex presentation. If any of my readers has exposed his patient during the passage of the child through the vulva, he has noticed that the breech passes down, and observes the same directions and movements as the vertex, that it rotates under the arch of the pubis, and presents the appearance of an elongated tumor pointing *upwards* and *forwards* from the vulva. This direction is given to the fœtus by the conformation of the pelvis and by the distended perinæum, and I would facilitate this movement by gently pressing the breech up in the same manner as we do the head in its passage through the external parts. This is *directly* the reverse of the rule given by Churchill, for he says, "as the breech passes, the perinæum must be carefully guarded with the left hand, whilst the right is employed in supporting the

child as it is expelled, and carrying it forwards and *downwards* towards the legs of the mother." Now I would direct that you guard the perinæum with the *right* hand, and at the same time assist the *upward* movement of the child, for three reasons: *first*, because you are *assisting* nature by promoting the very thing she is endeavoring to accomplish; *second*, because you are relieving the distended perinæum, and *consequently* diminishing the pressure on the cord; and *third*, because you are drawing tense the abdominal muscles of the child, and through them the anterior muscles of the neck, thus aiding the flexion of the child's head, a thing necessary for its safe delivery.

The breech has now passed the vulva, and the fifth rule appertains to the delivery of the shoulders and the head. If the cord is still strongly pulsating, rely further upon the *expulsive* power of the womb, in order to keep the head flexed; if it pulsates feebly, then grasp the child's body with a napkin and draw down gently in the direction of the axis of the strait. If the arms are turned up above the head of the child, then gently insinuate your finger *above* the shoulder, and draw the arm down towards the child's face, and then treat the second arm in the same manner. You must still continue gentle traction, and if the head be flexed, it will easily come forward; if not, the proper way is to insinuate the finger of the left hand into the child's mouth, and press the finger of the right hand against the occiput, then having grasped the body with both hands, you gently draw down the child's body, at the same time that you cause the flexion of the head by extracting with the left finger and forcing up with the right. The great danger at this stage of the delivery is using too much violence, for I am confident that more children are lost from this cause than from delay. When you have used the proper means, you will sometimes find that no *proper* tractive power will cause the delivery of the head. In a case of

this kind you must either apply the forceps or the perforator, in the manner usually indicated.

In making the above remarks, I have referred only to pelvic presentations devoid of all complications. Should these exist, then your treatment should be regulated by the circumstances of each case, and made applicable to the same. I have also made no allusions to the different *positions* of the pelvis, for they make little difference in the treatment. Nature, in almost every case, brings the occiput under the arch of the pubes; should, however, the abdomen face the arch, then a *gentle* rotary movement should be made, but much violence should not be used—the severe twisting or even dislocation of the neck may be the result.

Spontaneous Evolution of the Fœtus:

ITS MECHANISM AND TREATMENT.

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SPONTANEOUS EVOLUTION OF THE FŒTUS.

Its Mechanism and Treatment. By J. V. P. Quackenbush, M. D., of the Albany Medical College.

The delivery of the fœtus is a natural process, and in the regular performance of this function the machinery, which nature furnishes is amply sufficient. In the accomplishment of this act, however, there are certain established rules to be observed, and when these rules are violated, then the labor becomes abnormal, and the intervention of art is required. When the labor commences, the uterus itself should maintain its normal position in the body—that is its longitudinal axis should be parallel with the longitudinal axis of the body, and the longitudinal axis of the fœtus contained within this uterus should maintain a corresponding relation. This rule being observed, one end of the fœtus, now doubled up and constituting an ovoid body, must look towards the os uteri, while the other end looks towards the fundus, and when this relative condition of the fœtus and the uterus exists, then, so far as the presentation is concerned, the labor may be considered normal. When, however, the position is reversed, then the labor ex-necessitate becomes abnormal, and the intervention of art is required; and this leads me to speak of what is termed the presentation of the fœtus in labor.

When the labor commences, the fœtus is doubled upon itself; and upon this ovoid body we can mark five material parts, and five only, and one of these necessarily must present or engage at the os uteri. Now, these parts or points are the vertex, the face, the breach and the right or left lateral plane, and each of these presentations has its peculiar mechanism, and by means of these five kinds of mechanism the fœtus can in all and in every instance be delivered. There may be complications, such as the engagement in the os uteri of the arm, the knee, the foot or the umbilical cord, but

they are *only* complications, requiring no different nor distinct mechanism, and hence cannot be termed different presentations, for the distinctive mechanisms to which we have alluded are sufficient, and must be called into play whether these complications exist or not. We have then five presentations of the fœtus and five only. Three in which the axes of the uterus and fœtus are parallel, and hence normal, and two in which they are not parallel, and hence abnormal. These two are the right and left lateral planes. In the first three varieties, when the hour of parturition arrives, the beautiful machinery of nature is put into motion, and by a series of contractions the walls of the womb are forcibly drawn upon the fœtus, and its delivery is accomplished; the function is normal. In the last two varieties, the normal rules of position having been violated and the fœtus presenting by one of its lateral planes, the function becomes abnormal, and the intervention of art is required and should be offered. When, however, art does not interpose, nature attempts to overcome the difficulty, and resorts to one of two modes or methods—spontaneous version or spontaneous evolution. By the term spontaneous version, we mean the turning of the fœtus in utero when the lateral plane presents, in such a manner as to make either the head or the breach come down and engage in the os uteri, the first being termed cephalic, the second pelvic version. By the term spontaneous evolution, we mean a doubling up of the fœtus in the pelvis, and the forcible expulsion of the child in this condition, the portion of the child first engaging at the os uteri, maintaining its original position, while the other parts are expelled in succession, till the whole body is delivered.

The mechanism is as follows: The labor commences, the os uteri dilates, and the lateral plane presents. The shoulder first engages in the dilated mouth. The contractions of the womb being very forcible and expulsive, the shoulder is thrust down into the pelvis and the hand

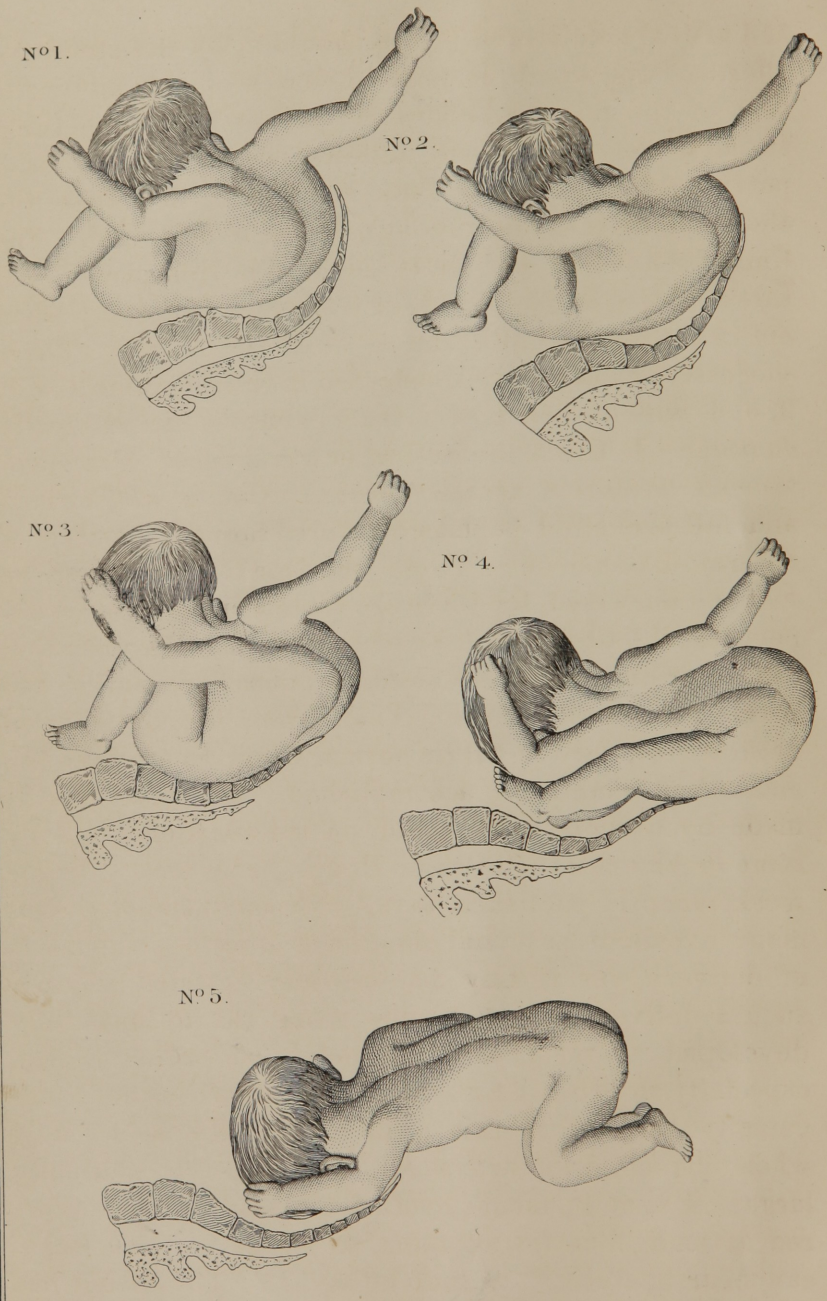

DIAGRAM ILLUSTRATING THE DIFFERENT STAGES OF SPONTANEOUS EVOLUTION OF THE FŒTUS.

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and arm are delivered. The shoulder, by the expulsive efforts of the womb, is pressed firmly up and under the arch of the pubis, and now the axilla is seen emerging through the vulva; now follows the lateral and back portion of the chest; then the lower ribs, then the abdomen, then the pelvis engages and is delivered. The limbs then follow, and lastly the head is disengaged. All this doubling of the fœtus, or evolution, is accomplished not in the uterus, but in the pelvis of the mother. These successive changes are illustrated in the diagrams Nos. 1, 2, 3, 4, which show how these evolutions *can* and really *do* occur. Is this a theoretical or a real case? Can spontaneous evolution actually occur? Can a well-formed and full size child be thus delivered through a pelvis of natural dimensions? These questions should first be met and answered, for there are obstetricians of large experience and high authority who assert that this evolution can occur only when the fœtus is unusually small or the pelvis abnormally large. That when the fœtus is of natural size and the pelvis normal in its dimensions, the manœuvre cannot be accomplished. This assertion is made by authors in England, on the continent, and by some in America. Professor Hodge, in his most valuable work recently published, says: "Notwithstanding that many excellent practical men have described this mode of delivery, yet it may be seriously agitated whether such a delivery is practicable, when the fœtus is fully devoloped at term, and the pelvis of ordinary size, especially in primaparous labors. Authorities very universally affirm that this mode of delivery occurs only when the children are small, or the pelvis unusually large; in some instances evolution is said to have occurred at term, but few of them, as far as we have seen, can bear analysis." Again he says: "The author has never met with a case of spontaneous evolution." This opinion expressed by Prof. Hodge is entertained by many of our best authors. Prof. Bedford, in his excellent work on the principles and practice of medicine, says:

"I must confess I have never in the course of my observations met with an instance of what may be properly termed spontaneous evolution."

These statements, coming from such distinguished sources, while they do not prove that spontaneous evolution cannot occur, certainly show that it is very seldom met with in practice. But the opinion that it can never happen is untenable, for cases are recorded which admit of no doubt. I have had in my own practice four cases, and in the treatment of them I exposed my patients and noticed the mechanism, as it slowly and with difficulty was accomplished. In the first the fœtus was small and prematurely expelled. This delivery was accomplished without any aid. In the second case, the fœtus was full sized and delivered by the efforts of nature alone. The third was of the same character, but required the intervention of art. In all the cases, the children were dead and the women lived, and recovered as well and as quickly as under ordinary circumstances. I have seen two other cases in consultation, in both of which version had been attempted and forcibly persisted in, and in each case the patient died. Having now spoken of the mechanism of this presentation, and answered affimatively the question, Can spontaneous evolution occur? I propose to speak of the treatment. How, then, shall we treat a case of spontaneous evolution? What are the rules or mode of procedure? And first, we should in all cases adopt the preventive or abortive treatment. No case of spontaneous evolution should be allowed to occur when the physician has the management of the labor from the commencement. When in the beginning of labor, a lateral presentation is diagnosed, we should watch our patient very carefully, and when the time arrives, we should interfere and produce version either cephalic or podalic. And here the question may arise, what is the proper time? When *should* version be accomplished? I answer, as soon as the os uteri is sufficiently dilated to allow the safe introduction of the

hand. This point, though of the gravest importance, seldom receives that careful consideration which it deserves. The *desire* to afford speedy relief to our patient too often obscures the judgment of the practioner, and prompts him to attempt the version of the child before the uterus is in a proper condition. And when version is attempted under these circumstances the operation becomes frequently hazardous—sometimes fatal. Again, another error is committed in waiting too long, for in this case the walls of the womb become firmly contracted on the body of the child, and the same danger is to be apprehended as before. This is no imaginary danger that I am portraying. Look at the statistics of Dr. Lee, which are really appalling. Of seventy-one cases of pelvic version, ten of the mothers perished—seven by rupture of the uterus, and three by inflammation. Of these seventy-one, fifty-five were delivered by hand, three by spontaneous evolution, one by evolution assisted by treatment, and twelve by perforation and crochet. Here, then, are the two dangers to be specially guarded against. First, the attempt at version, before the womb is sufficiently dilated; and second, waiting till the walls of the uterus are too firmly contracted on the foetal body. I would here suggest the necessity of abstaining from frequent examinations, lest the membranes should be prematurely ruptured, which always intensifies the danger in this case.

The second rule which I would give is not to attempt any version when a large portion of the child is expelled from the womb and occupies the pelvis. I know that this is not in accordance with the practice of many, and I know too, that there is an heroic manner adopted by some, which though by many deemed bold, is really foolhardy and dangerous to the patient.

In order to enforce this rule, let me state the dangers which attend its violation. When the fœtal body has been expelled from the uterus and is partially occupying the pelvic basin, and is there impacted, then the uterus

has become contracted, its calibre has been lessened, and it is not physically capable of holding within its cavity the fœtus which it once contained. Under these circumstances, if we attempt version, what is the result? Why, version in the pelvis itself being impossible, we must of necessity endeavor to replace the fœtus in the uterus, by forcibly dilating its cavity and pushing the fœtus up into it. This operation is attended with much danger and is entirely unauthorized, for we only hazard the woman's life without having any hopes of preserving the life of the fœtus, which is almost necessarily lost in the operation. Here then we have before us the imminent risk of the rupture of the womb, and the equally certain prospect of a dead fœtus as the result of this operation; and why is it resorted to? Simply because there is one class of physicians who will not use that judgment and good common sense which the case demands, and another class who seem to exult in showing to how much hazard they may subject their patients without actually killing them. And, I may add, there is one other class, who having been rightly instructed, both by precept and by experience, that version is the proper mode of treatment in a lateral plane or shoulder presentation, do not discriminate between a plane presentation *at the opening or mouth* of the *womb*, and that same presentation after it has degenerated into a position of partial evolution, when the body of the fœtus thrust through the mouth of the womb, now engages and occupies the basin of the pelvis. This position is illustrated in diagram No. 1, where the fœtus can be seen partially evolved and presenting at the external parts. When the fœtus has assumed this position and lies impacted in the pelvic basin, then the time for version has passed by, and each resort to it is an effort in the wrong direction and attended with much danger, and in no case can we entertain any rational hope for the preservation of the child.

The next rule which I would give, is not negative, but positive in its character, and relates to the active treat-

ment of the fœtus when we find it partially evolved and lying impacted in the pelvic basin. Assist and facilitate nature in the delivery of the fœtus *in the very manner* she has chosen. And how shall this be done? First draw upon the extended arm, bringing the shoulder forwards and upwards under and in front of the arch of the pubis. This is not in accordance with Prof. Hodge's instruction, which says, "perhaps it even would prove advantageous to *depress* the apex of the shoulder under the arch of the pubis and direct it within the pelvis, so as to allow it to rise up within and behind the pubis, and there afford room for a proper "*version*" in the cavity of the pelvis. This would be to convert the process of "*evolution*" into that of '*version.*'" This rule, as there given, implies that version can take place after the arm is delivered and the child's body firmly impacted in the pelvic canal, which I consider is impossible.

Should this method, however, be adopted *before* the child is impacted in the pelvis, it would be well, because it would facilitate the *version* of the fœtus, not in the *cavity* of the *pelvis*, but in the uterus itself. *Version*, as I understand it, always occurring in the uterus, *evolution* in the pelvic basin, and this distinction must always be considered. First, then, draw the shoulder down, and with it necessarily the body of the fœtus, thus facilitating the delivery to this extent. When this is accomplished, and you have assisted nature thus far, you render further aid by applying two fingers of each hand to the two sides of the child, and then exert as much traction as you can. When you find this unavailable, you can apply the forceps to the sides of the child and thus effect a further doubling up and advance of the fœtus—and you continue this traction till you can find the groin of the child, when you introduce the blunt hook, and fixing it carefully into the groin and around the thigh, you continue the tractive power till the fœtus is doubled up and out of the pelvis, thus accomplishing the delivery with the exception of the head, which must be treated as in any ordinary pelvic presentation.

Now can this be done in all cases, and is the process devoid of danger?

Some cases will not admit of this treatment, and may be classed under three heads: First, where the child is too large and firm to admit of evolution. Second, where the pelvis is too small; and Third, where the soft parts of the mother are too small, too rigid and too unyielding. In either of these cases we should not attempt to deliver the child in toto, as such procedure would be attended with much danger to the patient, and this brings me to the fourth and last rule applicable to this mode of delivery. When we find the child impacted in the pelvis, and the parts in the condition above mentioned, then we must facilitate the labor by diminishing the size of the child, and this is accomplished by first perforating the cavity of the chest and removing its contents, and then doing the same with the abdominal cavity and its contents. This will so diminish the fœtal body that evolution can be easily accomplished, and the delivery effected with little danger or difficulty.

The removal of the arm has been suggested by some, but this is *never* advisable; for in some cases we may and should use it as a leverage, and in no case can it form any obstruction, for it is always delivered before the body becomes impacted, and hence its amputation can only disfigure the child unnecessarily.

In submitting this paper to the society, my object has not been so much to advance any new mode of treatment, as to bring to view the difference between a shoulder presentation and its management, and that presentation after the child has left the uterus and lies impacted in the pelvis. In the one case version is necessary and proper; in the other case version is improper, and every attempt to produce it subjects the patient to imminent danger, and if the attempt be persevered in, death in almost every case must be the result. If I have plainly shown this difference, and if I have clearly portrayed this danger, then my object has been accomplished.